UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

May 24, 2007

BY ELECTRONIC MAIL AND REGULAR MAIL

Mr. Benn Lewis
Vice President
Airtek Environmental Corp.
39 West 38 Street, 12th Floor
New York, N.Y. 10018

Re: Comments on Draft "Remediation Phase" for
Fiterman Hall at 30 West Broadway, New York, NY

Dear Mr. Lewis:

The United States Environmental Protection Agency (EPA) has reviewed the draft "Remediation Phase" documents for Fiterman Hall at 30 West Broadway, New York, New York that were submitted by letter, dated January 17, 2007, by Airtek Environmental Corp. (Airtek) on behalf of the Dormitory Authority of the State of New York (DASNY) and the City University of New York (CUNY). EPA has also consulted with the U.S. Department of Labor Occupational Safety and Health Administration (OSHA), New York State Department of Environmental Conservation (NYSDEC), New York State Department of Labor (NYSDOL), the New York City Department of Environmental Protection (NYCDEP), and the New York City Department of Buildings (NYCDOB) about the documents submitted for the "Remediation Phase" of the work for Fiterman Hall. The comments from the NYSDOL and the NYCDEP are provided as attachments to this letter.

The following draft "Remediation Phase" documents were reviewed by the regulators in order to understand and evaluate the procedures for the "Remediation Phase":

- Regulatory Submittal Part I(R) – Remediation Work Plan, dated January 17, 2007
- Regulatory Submittal Part III(R) – Health & Safety Plan, dated January 17, 2007

- Regulatory Submittal Part IV(R) – Remediation Phase Waste Sampling and Management Plan, dated January 17, 2007
- Response to Regulator Comments, submitted with the January 17, 2007 cover letter

The Draft "Remediation Phase" documents reference work that is intended to be performed during the "Deconstruction Phase." Specifically, the draft Remediation Phase" procedures state that heavy machinery and equipment, such as generators, elevator motors, and cooling tower components, will be removed and disposed as asbestos-contaminated material (ACM) during the "Deconstruction Phase." Kindly note that this letter and the regulators' comments should not be construed of as a review of any "Deconstruction Phase" procedures. The regulators reserve the right to request further information about deconstruction procedures and to provide additional comments when all the proposed plans for the "Deconstruction Phase" have been developed and submitted to the regulators for review.

The regulators reserve the right to modify the attached comments and/or make additional comments about the proposed work if new information becomes available or information, currently known and considered, is changed in whole or in part during the "remediation and deconstruction" project. The attached comments do not pertain to any matters not addressed in the documents reviewed. In the event that the plans for the "remediation and deconstruction" have to be supplemented as the project proceeds, the regulators will review and may provide additional comments after we review the supplementary information and documents submitted on behalf of DASNY/CUNY.

To explain the proposed revisions to the draft "Remediation Phase" documents in support for the "remediation and deconstruction" of Fiterman Hall, EPA requests that DASNY/CUNY provide the regulators with a separate response to each of the attached comments that states: (1) whether the comments have been incorporated into the revised draft "Remediation Phase" documents; (2) if a comment has not been incorporated, the reason it was not incorporated; and, (3) any additional information that explains DASNY/CUNY's response to the attached comments. Your response to the attached comments will facilitate the regulators' review process. In your response, kindly inform the regulators of DASNY/CUNY's schedule for submitting the revised draft "Remediation Phase" documents in support for the "remediation and deconstruction" of Fiterman Hall, and the other deliverables referenced in this letter.

After DASNY/CUNY and its consultants have an opportunity to review the regulators' comments and this letter, please let me know if you would like to discuss them during a teleconference or at a meeting. We look forward to your response to our comments prior to the commencement of any "Remediation Phase" work.

If you have any questions please contact Mr. Emmet Keveney of my staff at (212) 637-3459.

Sincerely,

Pat Evangelista
WTC Coordinator
New York City Response and Recovery Operations

Enclosure

cc: Sal Carlomagno, NYSDEC w/encl.
Chris Alonge, NYSDOL w/encl.
Krish Radhakrishnan, NYCDEP w/encl.
Richard Mendelson, OSHA w/encl.
Richard Rosen, NYCDOB w/encl.
Max Lee, NYCDOB w/encl.
Robert Iulo, NYCDOB w/encl.
Richard Dalessio, DASNY w/encl.
Max Pizer, CUNY w/encl.

Regulatory Submittal Part I(R)
Remediation Work Plan
Dated January 17, 2007

GENERAL COMMENTS:

1. With regard to the reference to the disposal of brick and mortar as conventional construction and demolition (C&D) waste throughout the plan, those references should be revised to state that if no residual WTC dust is identified by visual observation and if waste characterization results collected during the Pilot Program do not exceed RCRA/TSCA limits, brick and mortar removed subsequent to the Pilot Program, in non-gash areas, will be handled and disposed of as conventional C&D waste.

2. Airtek should clarify in the Remediation Work Plan if the definitions for porous and non-porous items, non-fixed items, and exposed building components discussed in Section 6.1.1 for developing the clean zone apply to the definition for porous and non-porous items, non-fixed items, and exposed building components to be disposed on the other floors/roofs of the building, as discussed in later sections.

3. In Airtek's response to comments, Airtek states that any comments received from MTA and LMCCC will be incorporated into the plan and will be submitted for approvals before the commencement of "remediation operations" work. The regulators would need to review the plans again prior to commencement of work if revisions are made based on comments received from LMCCC and MTA.

4. Please clarify if the results of the scaffold attachment inspections will be applied to work procedure planning for the removal of any non-gash area fascia brick during the remediation phase or will all of the non-gash area fascia brick removal be handled during the deconstruction phase of the project. The remediation phase work plan should be amended and reviewed and accepted by the regulators if the non-gash area fascia brick will be handled and removed during the remediation phase.

5. How will Gaylord boxes be sealed? Will an entire Gaylord box be wrapped in poly on the outside? If so, how many layers? This should be clarified in any sections that discuss the usage of Gaylord boxes.

6. The Remediation Work Plan should describe the "aggressive clearance air sampling" and "aggressive air sampling" procedures/techniques.

SPECIFIC COMMENTS:

Section 3.5: USEPA Notification

7. It does not appear that the sample notification, stated to be Attachment III, was submitted. Please confirm that all the attachments have been included.

Section 4.5: Elevator Service & Section 6.2 (Upper Level Access)

8. Please provide more details on the portable hoist, the level of PPE used by those installing and using the hoist, and the purpose of its use.

Section 5.4: Visual Inspection

9. Recommend adding "for the owner" at the end of the last sentence of the last bullet item: "This procedure shall be followed by all parties who hold authority over the release of work areas for the owner."

Section 6.1.1: Non-Fixed Items

10. The second sentence of this section states the following: "All non-porous items, including furniture and construction materials will be transported to the wash room of the waste decontamination facility." What type of furniture and construction material is being considered to be "non-porous items"? Materials, such as, but not limited to, wood, upholstered furniture, etc. would be considered to be porous materials and would need to be disposed of as asbestos waste at a minimum, and depending on any final waste characterization results conducted or to be conducted.

Section 6.1.1: Non-Fixed Items

11. It is recommended that the definition of "conventional waste" be revised to read as follows: "Conventional waste shall refer to any non-asbestos containing non-porous material that is free of any dust or debris."

12. Recommend revising the following sentence in the first paragraph of this section to read as follows: "Below is a list of non-fixed items that are non-porous and that are suitable to be cleaned and disposed of as conventional waste".

13. Reference is made to the "First Floor remediation" in a few locations of this section. Please clarify in this section if this pertains to the "First Floor Clean Zone" remediation or the entire first floor remediation that is being done at different stages of the remediation phase.

Section 6.1.2: Exposed Building Components

14. The second and third bullet items should be clarified if there are any wood doors and/or wood radiator covers in the building since these items should be considered porous materials and should be handled and disposed of as asbestos waste at a minimum, and depending on any final waste characterization results that may have been or may be conducted for that waste stream. This comment also applies to the reference to doors in sections 6.1.3 and 6.8.

15. Please see comment below under, "Regulatory Submittal Part IV(R), Remediation Phase, Waste Sampling and Management Plan," with regard to ballasts. Such comment applies to this section as well.

Section 6.1.6: Cleaning and Clearance of the First Floor Clean Zone

16. This section discusses a visual inspection by the environmental consultant prior to the conduct of aggressive air sampling. This section should be revised to state that the regulators will conduct a visual inspection after the environmental consultant determines that a specific work area is ready for a final visual inspection by the regulators prior to the conduct of any aggressive air sampling. The environmental consultant should give the regulators at least a minimum of twenty-four hours notice before the regulators are expected to conduct the final visual inspection.

Section 6.1.7: Cleaning and Clearance of Stairwell C

17. This section states the following: "When decontaminated floors have been cleared the entrances into Stairwell C will be unsealed to provide clean access to clean areas." How are personnel accessing these clean areas if these areas will be above the floors that still need to be abated? What is the purpose?

18. This section states the following: "Wall, ceiling and floor surfaces will remain in place within the C Stairwell once remediation activities have been completed." Please clarify what materials the wall, ceiling, and floor surfaces consist of within the stairwell. Please clarify if there are any porous materials within the stairwell that should be removed during the "remediation" activities as opposed to the "deconstruction" phase.

19. This section discusses a visual inspection by the environmental consultant prior to the conduct of aggressive air sampling. This section should be revised to state that the regulators will conduct a visual inspection after the environmental consultant determines that a specific work area is ready for a final visual inspection by the regulators prior to the conduct of any aggressive air sampling. The environmental consultant should give the regulators at least a minimum of twenty-four hours notice before the regulators are expected to conduct the final visual inspection.

Section 6.1.8: First Floor Clean Zone and C Stairwell Clearance Criteria

20. This section discusses a visual inspection by the environmental consultant prior to the conduct of aggressive air sampling. This section should be revised to state that the regulators will conduct a visual inspection after the environmental consultant determines that a specific work area is ready for a final visual inspection by the regulators prior to the conduct of any aggressive air sampling. The environmental consultant should give the regulators at least a minimum of twenty-four hours notice before the regulators are expected to conduct the final visual inspection. This comment also applies to Sections 6.20 (Final Cleaning and Clearance) and 6.21 (Work Area Clearance Criteria).

21. How do you plan to conduct final aggressive air sampling and final clearance of the stairwell? How many samples will be taken for the stairwell? This section should be revised to address these questions.

22. Please clarify that the clearance criteria levels specified in this section will apply to the stairwells in addition to the floors being abated and cleared.

Section 6.3: Shredder Installation

23. This section discusses shoring the floor underneath the "First Floor Shredder Zone" using lolly columns and steel beams to be installed on the basement level. What type of personnel will be conducting this activity and what type of pre-cleaning of the area will be conducted to establish a clean zone to facilitate the installation of the shoring? Please clarify in this section.

24. Based on discussions with NYSDOL, it is recommended that the word "may" be replaced with "shall" in the following sentence of the last paragraph of this section: "Manufactured items with asbestos content of one percent or greater may not be subject to shredding."

25. What type of dust control devices will be installed on the shredder? Please clarify in this section.

Section 6.4: Establishment of Secondary Loading Dock

26. Please explain in this section how the loading dock area will be cleaned.

Section 6.5: Establishment of Interior Containment (Second Floor through Fifteenth Floor)

27. Why were intake bays proposed as opposed to negative air machines to bring in air? How will filters be changed?

Section 6.6: Simultaneous Work Procedures

28. With work being performed on several floors within the building simultaneously, will there be enough showers in the decon to support the amount of workers in the building? Please clarify in this section.

Section 6.7.1: Shreddable Material

29. Which "non-fixed items" are planned to be shredded from floors two through fifteen? Please clarify in this section.

30. How will Gaylord boxes be removed from the floors and loaded onto the trucks? Please clarify in this section.

Section 6.7.2: Non-Shreddable Material

31. Which "non-fixed items" are planned to be cleaned that are not capable of being shredded from floors two through fifteen? Please clarify in this section.

32. Are there any non-porous "non-fixed items" that are not capable of being shredded and that are not capable of being cleaned from floors two through fifteen (e.g., hand tools, power tools)? This section should clarify what these items are and how they will be handled, stored, and disposed from floors two through fifteen.

33. "and incapable of being cleaned" should be stricken from the first sentence of the last paragraph of this section since all porous items should be handled and disposed of as asbestos waste at a minimum and based on any final representative hazardous waste characterization sampling that has been or will be conducted for that waste stream.

Section 6.8: Exposed Building Components (Floors Two through Fifteen)

34. Which "exposed building components" will be considered "shreddable building components" and which will not be considered "shreddable building components"? Please clarify in this section.

35. Please see comment below under, "Regulatory Submittal Part IV(R), Remediation Phase, Waste Sampling and Management Plan," with regard to ballasts. Such comment applies to this section as well.

36. Which "exposed building components" are planned to be cleaned that are not suitable to be shredded from floors two through fifteen? Please clarify in this section.

37. Are there any non-porous "exposed building components" that are not suitable to be cleaned and/or shredded from floors two through fifteen? If so, this section should clarify what these items are and how they will be handled, stored, and disposed from floors two through fifteen.

38. Are there any porous "exposed building components" on floors two through fifteen (e.g., wood doors, wood/upholstered furniture, etc.)? Wood/Upholstered "exposed building components" should be considered porous materials and should be handled and disposed of as asbestos waste at a minimum, with any other porous "exposed building components", and depending on any final waste characterization results that may have been or may be conducted for that waste stream. This section should clarify what these items are and how they will be handled, stored, and disposed from floors two through fifteen.

39. This section states that non-shreddable material will be steam cleaned or wet washed. However, other sections state that both methods will be used. Please clarify in this section if both methods will be used or only one of these methods.

40. How will proper inspection of the cleaned material be conducted if it is being "live-loaded" into compactor trucks?

Section 6.9: Interior Walls and Ceiling Systems (Floors Two through Fifteen)

41. The following sentence can be found in the second paragraph: "In both of the methods for disposal of sheetrock and ceiling tile debris, metal materials will be removed in the same manner." This statement contradicts the approach to be taken for handling the ceiling grids later in the paragraph. Please clarify in this section or re-word or remove the sentence.

42. This section should be clarified to note that any porous building components and/or materials existing behind interior walls or within ceiling systems should be handled and disposed of as asbestos waste at a minimum, and depending on any final waste characterization results that may have been or may be conducted for that waste stream. This comment also applies to Section 6.1.3 and to the ventilation shaft section (i.e., Section 6.10).

Section 6.10: Ventilation Shaft

43. Please provide further details in this section on the basins to be used at the bottom level of each shaft work area.

Section 6.12: Gash Area Abatement Procedures

44. Please describe the scope of work and procedures to address the containment, cleaning, removal, and visual inspections of all breached fascia brick in the gash area.

Section 6.13.1: Loose Stone (Ballast) Removal

45. This section states that the surface of the rubber roof membrane will be cleaned of all residual dust and debris by HEPA vacuuming and wet wiping. Please clarify if there is a potential for dust and debris to be located in the subsurface of the rubber roof membrane in addition to the surface. If so, please clarify how the subsurface of the rubber roof membrane will be cleaned and how the rubber roof membrane would be disposed.

Section 6.18: Heavy Machinery & Equipment Removal

46. Please clarify if any of the heavy machinery and equipment noted in this section could be dismantled under containment during the remediation phase and properly handled and disposed during the remediation phase.

Section 6.20: Final Cleaning & Clearance

47. Based on discussions with the NYSDOL, encapsulant should not be applied until after the final air clearance sample results have been reviewed and accepted by the regulators.

Regulatory Submittal Part IV(R)
Remediation Phase
Waste Sampling and Management Plan
Dated January 17, 2007

GENERAL COMMENT:

1. The table of contents has a section titled, "6.1 ACM/LBP Waste," and section 2.1 lists "lead-painted components (LBP)" as an anticipated waste stream. However, besides these two references, the Remediation Phase Waste Sampling and Management Plan (Remediation WSMP) does not actually discuss how this waste stream will be managed, characterized, handled, stored, and disposed. The Remediation WSMP should be revised to provide this information since LBP components are identified as an anticipated waste stream.

SPECIFIC COMMENTS:

Section 1.5 WTC Dust Waste Characterization

2. Airtek may wish to add the following sentence originally stated in Section 1.3 to the end of the third paragraph of Section 1.5 since the proposed plan states that some non-porous items may be cleaned as opposed to being disposed as asbestos waste: "Certain non-porous items may be cleaned and disposed of as conventional waste if they can be demonstrated to be cleanable."

Section 2.4 Universal Wastes

3. Why are light ballasts and potting materials that Airtek has identified as PCBs in this section placed under the "Universal Waste" category? The various sections of the Remediation WSMP should be revised to provide information on how light ballasts and potting materials will be managed, characterized, handled, stored, and disposed since all these anticipated waste streams are not categorized as universal waste.

Fluorescent light ballasts contain a small capacitor and other electrical components which are encased in a tar-like substance that is commonly known as "potting material." Prior to July 1, 1979, PCB dielectric fluid was the fluid of choice in the small capacitors that were used by light ballast manufacturers. After July 1, 1979, the manufacture of PCB capacitors was banned. Any fluorescent light ballast manufactured between July 1, 1978 and July 1, 1998 that did not contain PCBs was required to be marked with the statement "No PCBs." The presence of a "No PCBs" label on a ballast, especially if it was manufactured in the years immediately following 1978, would not provide assurance that the "potting material" is not contaminated with PCBs. (Kindly note that such "potting material" at contamination levels exceeding 50 ppm may also constitute a New York State hazardous waste pursuant to 6 NYCRR, Part 371, Section 371.4(e).)

When large numbers of capacitors or ballasts that may contain PCBs are collected prior to disposal, EPA recommends that they be disposed as PCB waste. Fluorescent light ballasts with "potting material" that is contaminated with PCBs above the regulated level of 50 ppm, even if the capacitors within them do not contain PCBs, would be PCB articles and would be regulated for disposal as PCB waste.

Section 3.1 Previously Characterized Waste

4. This section discusses the waste sampling conducted to date. However, portions of sections 3.1.5 and sections 3.1.6 and 3.2 do not discuss previous waste sampling but discuss the approach/assumptions to be taken for those specific waste streams during the Remediation Phase. It may be more beneficial to have such items placed within section 4.0 to make a clear distinction between the previous sampling activities, and the conclusions drawn from that sampling, and the waste characterization strategy to be followed during the actual Remediation Phase work activities.

Section 3.1.5 Roofing Materials

5. This section discusses cleaning the roof membrane. Are any of the roof membranes on any of the roofs/setbacks considered porous material? If so, it should be handled and disposed of as asbestos waste, at a minimum, and depending on any final waste characterization results that may have been or may be conducted for that waste stream, as is currently stated for the ballast fines in this section.

Section 4.2 PPE and Remediation Process Consumables

6. This section discusses collecting five (5) grab samples to create three (3) composite samples. This section should state where the grab samples are being collected from (e.g., a 55-gallon drum, five grabs per waste stream, etc.).

Section 4.3 Remediation Process Liquids

7. The first paragraph seems to conflict with the second paragraph with regard to testing of liquids. Please clarify in this section.

8. What is the distinction in the second paragraph between the "cleaning process liquids determined to be of an uncharacterized source" that will undergo analytical testing and the "liquids intended for filtration and disposal" that will be tested? Please clarify in this section.

9. The second paragraph seems to conflict with the third paragraph with regard to how many drums will be tested per composite sample. Please clarify in this section.

Section 4.6 Shreddable Waste

10. Reference is made to "Section 2.1.5". There is no section 2.1.5 in the Remediation WSMP. Please clarify in this section.

Section 4.7 Non-Porous Waste

11. The last two sentences of the last paragraph of this section which discuss "representativeness" of waste sampling do not correlate with the rest of the paragraph which discusses visual inspections. Please clarify and revise the section.

Section 6.2 PPE and Remediation Process Consumables

12. What "dust characterization study" is being discussed? If it is the same one as noted earlier in the Remediation WSMP, conclusions have already been drawn based on that study. Please clarify in this section.

Section 6.5 Refrigerant-containing Equipment

13. What is meant by the statement that "this equipment will be handled in the same manner as all other building components", what will it be disposed as, and where will it be stored prior to disposal? Please clarify in this section.

Section 6.7 Non-porous Materials

14. Where are you planning to store the "non-cleanable and/or non-inspectable non-porous materials"? Please clarify in this section.

Section 6.8 Roofing Materials

15. This section discusses the use of a "vacuum truck" for removing the ballast from the roof? Please clarify in this section if the "vacuum truck" will be used on all the roofs and roof setbacks. Please describe in this section the procedure for the use of the vacuum truck on the roof(s)/roof setback(s).

Section 7.0 Transportation Requirements

16. The second paragraph states that no PCB waste is anticipated for this operation. However, this contradicts Section 2.4 which states the following: "Light Ballasts and Potting Materials (PCBs)" (see comment above on Section 2.4). Please clarify.

Section 9.0 Disposal Facilities

17. Please specify the disposal facility where any anticipated PCB waste will be disposed of.

Attachment B Waste Storage Areas

18. Any PCB waste managed and stored on-site should be segregated from the universal waste storage area presently shown in the figure.

Attachment C: Quality Assurance Project Plan

19. The language currently specified on the front page of Attachment C should be revised since "Regulatory Submittal Part IV(S)" has already been reviewed.

New York State Department of Labor
Eliot Spitzer, *Governor*
M. Patricia Smith*, Commissioner*

May 4, 2007

Pat Evangelista
WTC Coordinator
New York City Response and Recovery Operations
US EPA – Region II
290 Broadway
New York, NY 10007-1866

Re: Comments on Asbestos/WTC Dust Portion of
Regulatory Submittal – Part I Remediation Work Plan dated January 17, 2007
Fiterman Hall Building
30 West Broadway
New York, NY

Dear Pat,

The Department has received and reviewed the revised January 17, 2007 Regulatory Submittal Part I Remediation Work Plan document, as it relates to asbestos material (ACM) and WTC dust/residue removal/cleanup procedures.

The Department has discussed aspects of the documents with the New York City Department of Environmental Protection (DEP), and DEP concurs with the Department's comments on the submitted documents. Several significant items within the work plan must still be revised to address Departmental concerns.

General Comments

- *Throughout the work plan submittal, requirements are included for "NYS DOL and NYC DEP licensed asbestos handlers". As previously indicated and as per ICR 56, asbestos contractors must be licensed and each individual handler must be appropriately trained and certified. The work plan requirements must be changed globally throughout the work plan document to indicate "asbestos contractor licensing and handler certification shall be consistent with NYS DOL ICR 56 requirements, as well as NYC DEP requirements".*
- *The concept that floors two through fifteen will comprise one work area, but three floor blocks will be split-up within the work area is problematic at best. It is unclear if each three floor block is segregated from the other three floor blocks within the same work area, and do they share the same air source? If all the three floor blocks within the same work area share the same air source and there is no segregation or isolation of these separate portions of the same work area, then abatement, cleaning and clearance must occur throughout all portions of the work area at the same time. For example, the post-abatement cleaning in floors 15, 14, and 13 is complete, but ACM is still being removed in the floors below floor 13. As floors 13, 14, &15 apparently draw make-up air from the remainder of the work area, floors 13, 14, & 15 will likely be re-contaminated by the abatement operations occurring in the remainder of the same work area. All abatement and*

cleaning operations within each abatement work area must be entirely completed before the project monitor visual inspection commences. The satisfactory visual inspection would then be followed by clearance air sampling of the entire work area.

- *The concept that stairwell A & B will be cleaned and cleared simultaneously with the various 3 floor blocks of the upper floors is also problematic. As previously indicated, these portions of the same work area share the same air source and as there is no segregation or isolation of these separate portions of the same work area, cleaning and clearance must occur throughout the entire work area at the same time.*
- *The concept that stairwell C will be cleaned and cleared simultaneously with the first floor clean zone is also problematic, as no correlation is included regarding cleaning and clearance of these two portions of the same work area at exactly the same time. As these two portions of the same work area share the same air source and there is no segregation or isolation of these separate portions of the same work area, cleaning and clearance must occur throughout both portions of the work area at the same time. For example, stairwell C is cleaned and cleared but ACM is still being removed in the first floor work area. As Stairwell C apparently draws make-up air from the remainder of the first floor work area, stairwell C will likely be re-contaminated by the abatement operations occurring in the remainder of the same work area. The operations within each abatement work area must be entirely completed before the project monitor visual inspection commences. The satisfactory visual inspection would then be followed by clearance air sampling of the entire work area.*

Specific Comments

REGULATORY SUBMITTAL PART I – WORK PLAN

- 3.1 ASBESTOS SURVEY

  This section refers the reader to the Environmental Characterization Report for results of the survey. A summary of the survey results listing the ACMs found and their locations shall also be included within this section.

- 3.2 NYS DOL NOTIFICATION & 3.3 NYS DOL VARIANCE APPLICATIONS
- *These sections indicate that a variance petition is included within Work Plan Attachment II for abatement work that is not in compliance with Industrial Code Rule 56 (ICR 56). However, the variance petition is not apparent within the work plan. As previously indicated, if procedures must be specified that aren't consistent with (ICR 56) requirements, a site-specific variance decision must be obtained by the project designer as an agent for the owner, and the procedures and conditions contained within the site-specific variance decision must then be incorporated into the work plan specified asbestos project procedures, prior to obtaining the necessary regulatory agency work plan approvals.*

  o *The site-specific variance petition, has yet to be submitted to the Department for an official decision. The variance petition must be submitted using the standard DOSH-751 form along with appropriate processing fee, prior to the Department issuing an official decision on the petition. Conditions/requirements may be added by the Department within the variance decision for adequate health and safety protection of all parties on the project, as well as the*

general public. The variance petition must be submitted as soon as possible, to alleviate any potential project scheduling issues.

- 4.1 ELECTRIC

  This section indicates that GFCI equipped electric panels will be installed on each floor and attached directly to the electrical closet on that level. However, nothing is included regarding adequate protection of the live electric within the electrical closet that is not GFCI protected.

  At what point during work area preparation will the GFCI panels be installed? Also, how and when will the live electric within the electrical closet be protected and segregated from the work area on that specific floor?

- 4.2 PLUMBING

  This section includes information for the water supply to be utilized during the asbestos project, but nothing is included regarding drainage systems to be utilized for the asbestos project, filtering systems for the wastewater, discharge points or necessary discharge permits. All pertinent information regarding wastewater collection, temporary storage and disposal must be provided

- 4.5 ELEVATOR SERVICE

  This section does not include any information regarding venting of the elevator shafts or negative pressure engineering controls to filter and control the vented air. A summary of the proposed engineering controls for operation of the elevators must be included within this section. Specific details, procedures and requirements may be addressed within a more detailed section of the work plan. Please note that all asbestos project work plan procedures regarding elevator operation shall correspond with all conditions and procedures within existing site-specific variance decisions, decision amendments and decision reopenings for the project.

- 5.4 VISUAL INSPECTION

  This section appears to include general information regarding completion of a work area visual inspection for completeness of abatement and cleanings. However, nothing is included regarding the actual personnel that are required to complete the inspection, and no reference is included to specific requirements for visual inspections as required by ICR 56.

  Specific criteria must be defined and appropriate parties identified with responsibility for conducting visual inspections (e.g. ASTM E1368 requirements completed by owner's project monitor after satisfactory visual inspection by abatement contractor supervisor, etc.). Appropriate sections of ICR 56 must be referenced as necessary. In addition, provisions must also be included within the work plan to allow for regulatory agency visual inspections prior to commencement of clearance air sampling.

- 6.0 REMEDIATION OPERATIONS

  This section indicates that the Office of the City Medical Examiner will perform a complete inspection of the building & site prior to commencement of remediation operations. Please provide a summary of inspection procedures and also indicate if any potential disturbance to ACM or WTC dust/residue will occur during these search operations.

  If a disturbance may potentially occur, indicate what engineering controls will be in place during the search to prevent any potential airborne release of asbestos fibers outside the building envelope.

- 6.1 ESTABLISHMENT OF CLEAN ZONE

This section indicates that the personal decontamination facility utilized for remediation of the clean zone will be the existing decontamination facility at the northwest entrance of the building. However, the Decontamination of the Clean Zone and Upper Access Level Access Plan Drawing provided in Attachment V of the work plan does not accurately reflect this information. The provided plan drawing indicates no access to the building interior from the existing northwest entrance decontamination facility, and also indicates that a personal decontamination facility will be constructed at the West Broadway side of the building for access to the intended clean zone for decontamination. This plan drawing and the pertinent work plan text must be revised to appropriately reflect the intended location of the personal decontamination facility for this work.

This section indicates that "asbestos handlers will clean the interior surfaces of all windows in the first floor clean zone work area by HEPA vacuuming and wet-wiping. Following cleaning, all windows, openings and building penetrations will be sealed with two layers of six-mil poly…" However, it is unclear how operable window hidden surfaces that may still contain WTC dust will be cleaned prior to sealing of the windows as critical barriers. The procedures must be revised accordingly.

This section indicates that "airlocks will be installed at the entrances to all stairwells with the exception of stairwell C". Please explain the purpose and function of these airlocks, as these stairwells will not be included as part of the initial clean zone work area, and make up air to the intended "clean zone" will be entering the work area through these airlocks to contaminated stairwells.

This section indicates that 4 air changes per hour will be maintained in the clean zone and stairwell C work area, but "it will not be possible to maintain negative pressure of point zero two inch water column". If -0.02" of water column pressure differential, as evidenced by manometer, is not maintained within the work area, then adequate negative air ventilation has not been provided for the work area.

Also calculations are provided for determining the minimum number of negative air units required. The calculations provided within this section do not appear to include a safety factor for reduced CFM capacity for each unit. An appropriate safety factor should always be utilized when calculating minimum number of negative air machines, as the manufacturer provided CFM capacity is provided for a new machine, with a new HEPA filter and no exhaust tube. Obviously, restrictions are introduced when the exhaust tube is attached to the machine and the HEPA filter is no longer new. All flow restrictions must be appropriately accounted for in negative air flow calculations.

In addition, nothing is included within this section for any necessary selective demolition required to complete the installation of the critical barriers and to completely isolate the work area from the exterior environment as well as the remainder of the building (e.g. openings/penetrations at columns, shafts, curtain walls, etc.). Obviously any selective demolition necessary must be completed at the conclusion of work area preparation (including establishment of negative air ventilation and installation of the remainder of the critical barriers).

- 6.1.1 NON-FIXED ITEMS

This section does not include the requirement that items/components with hidden or inaccessible void spaces, which can not be completely cleaned/decontaminated, must be disposed of as asbestos waste at a minimum.

- 6.1.3 INTERIOR WALLS AND CEILING SYSTEMS

  This section indicates that sheetrock, ceiling systems and other materials that do not readily absorb water will be thoroughly saturated during removal.

  This section must be revised to indicate that materials to be removed shall be adequately wetted with amended water. Sufficient time shall be allowed for penetration to occur prior to abatement activities. All friable asbestos materials shall be thoroughly saturated. All non-hygroscopic (material that resists wetting) material shall be thoroughly wetted, prior to and during abatement.

  This section does not include any prohibition of ACM disturbance during removal of non-ACM systems. This requirement must be included within this section as ACM removals will commence following completion of the non-ACM removals.

- 6.1.4 ASBESTOS-CONTAINING MATERIALS

  This section indicates that friable ACM pipe insulation and non-friable floor tiles will be removed simultaneously within the contained work area. However, ACM removal must be sequential as indicated within ICR 56-8.6. All friable ACM must be removed first followed by an intermediate cleaning, and then all non-friable ACM shall be removed. This section must be revised to correspond with ICR 56 requirements.

  In addition, requirements consistent with ICR 56-7.2(o) must be included. This section of ICR 56 indicates that, "power tools used to drill, cut, or otherwise disturb asbestos material in regulated abatement work areas, shall be manufacturer equipped with HEPA-filtered local exhaust ventilation".

- 6.1.6 CLEANING AND CLEARANCE OF THE FIRST FLOOR CLEAN ZONE

  This section must be revised to include the requirement that encapsulation of removal surfaces is prohibited until after satisfactory clearance air sample results have been obtained.

  In addition, please include a description of all anticipated remaining surfaces within the first floor clean zone following abatement, cleaning and clearance (e.g. masonry and steel construction with no interstitial spaces remaining at ceilings or walls…all exposed surfaces remaining at completion of cleaning and clearance are non-porous painted concrete or steel).

- 6.1.7 CLEANING AND CLEARANCE OF STAIRWELL C

  This section indicates that stairwell C will be cleaned and cleared simultaneously with the first floor clean zone, but no correlation is included regarding cleaning and clearance of these two portions of the same work area at exactly the same time. As these two portions of the same work area share the same air source and there is no segregation or isolation of these separate portions of the same work area, cleaning and clearance must occur throughout both portions of the work area at the same time. As previously indicated, this approach is problematic at best. The operations within each abatement work area must be entirely completed before the project monitor visual inspection commences. The satisfactory visual inspection would then be followed by clearance air sampling of the entire work area.

  In addition, as no wall, ceiling or other system removals are planned for Stairwell C, please include a description of Stairwell C construction, as well as a description of all remaining surfaces within the stairwell following cleaning and clearance (e.g. masonry and steel construction with no interstitial

spaces at ceilings or walls…all exposed surfaces remaining at completion of cleaning and clearance are non-porous painted concrete or steel).

This section also indicates that Stairwell C barriers will be broken down following satisfactory clearance and then all accesses to the stairwell will be sealed from the upper floors. This requirement must be modified to prevent any access to stairwell C from upper floor contaminated areas. The critical barriers sealing upper floor access to Stairwell C should remain in place following completion of Stairwell C satisfactory clearance air sampling. This procedure should be included within the site-specific variance petition.

- 6.1.8 FIRST FLOOR CLEAN ZONE AND C STAIRWELL CLEARANCE CRITERIA

  This section indicates that 5 TEM samples will be collected per floor of work area. How does this requirement relate to clearance of Stairwell C? Does this mean that approximately 75 TEM samples will be collected from Stairwell C during clearance air sampling? Minimum clearance air sampling requirements must be further clarified.

  In addition, please include a description of all anticipated remaining surfaces within the first floor clean zone following abatement, cleaning and clearance (e.g. masonry and steel construction with no interstitial spaces remaining at ceilings or walls…all exposed surfaces remaining at completion of cleaning and clearance are non-porous painted concrete or steel).

- 6.2 UPPER LEVEL ACCESS

  This section indicates that the personal decontamination facility will be constructed at the West Broadway East side Lobby south entrance. However, the clean zone configuration plan drawing indicates that the personal decontamination facility shall be constructed within the building at the south interior entrance to the east Side Lobby. The plan drawing and work plan text must be revised accordingly.

  In addition, this section indicates that upper floor access and abatement of the first floor clean zone will occur simultaneously. This simultaneous access would be impossible if the personal decontamination facility is actually located within the first floor work area. These inconsistencies must be appropriately addressed.

- 6.3 SHREDDER INSTALLATION

  This section indicates that a section of north side curtain wall will be removed to allow installation of the shredder. However, nothing is mentioned regarding any impact to remaining exterior ACMs. Please clarify this section accordingly.

  In addition, a minimum of eight air changes per hour must be maintained within the shredder area during shredder operations. A manometer shall be installed within this area to continuously document pressure differential readings within the shredder processing area.

  All processing of waste through the shredder must be completed using wet methods, and no visible emissions are allowed during the processing procedure. Waste to be processed must be adequately wet during processing operations and after processing when loaded into waste containers.

The list of shreddable materials includes various metal items, wood and porcelain items. Further details must be provided regarding limitations of the shredder. What type of materials can not be processed by the shredder (other than ACM)? Can any thickness metal be processed? Also, are there any engineering controls at the shredder itself, such as localized HEPA-filtered negative air ventilation?

- 6.4 ESTABLISHMENT OF SECONDARY LOADING DOCK

  This section indicates that a section of west side curtain wall will be removed to allow for loading dock conversion. However, nothing is mentioned regarding any impact to remaining exterior ACMs. Please clarify this section accordingly.

- 6.5 ESTABLISHMENT OF INTERIOR CONTAINMENT (SECOND FLOOR THROUGH FIFTEENTH FLOOR)

  This section indicates that the personal decontamination unit utilized for accessing the upper floors will be relocated to the building interior once the clean zone is established. However, the plan drawing that includes upper zone access is unclear regarding this procedure. In addition, the personal decontamination unit located on the plan drawing at the exterior West Broadway side of the building appears to serve the clean zone work area. Please revise plan drawings and text to accurately reflect the intended decontamination unit locations for these separate work areas, including any decontamination unit relocation necessary during work area preparation and abatement. Also, describe the procedures for maintaining decontamination unit access to the upper levels during decontamination unit relocation.

  Regarding use of the elevators and the venting of HEPA-filtered air from the elevator machine room, once the elevators are in operation, a minimum of 8 air changes per hour shall be maintained within the machine rooms. In addition, continuous recording manometers must be installed within in the machine rooms to document adequate continuous negative pressure differential while the elevators are in operation.

  This section indicates that 4 air changes per hour will be maintained in the upper floors work area, but "it will not be possible to maintain negative pressure of point zero two inch water column". If -0.02" of water column pressure differential, as evidenced by manometer, is not maintained within the work area, then adequate negative air ventilation has not been provided for the work area.

  Also calculations are provided for determining the minimum number of negative air units required. The calculations provided within this section do not appear to include a safety factor for reduced CFM capacity for each unit. An appropriate safety factor should always be utilized when calculating minimum number of negative air machines, as the manufacturer provided CFM capacity is provided for a new machine, with a new HEPA filter and no exhaust tube. Obviously, restrictions are introduced when the exhaust tube is attached to the machine and the HEPA filter is no longer new. All flow restrictions must be appropriately accounted for in negative air flow calculations.

  This section indicates that negative air ventilation unit exhausts shall be placed at the north and south side of each floor. No exhaust tube termination is allowed to be within 50 foot of intakes to other buildings/structures including subway vents and grates. This requirement must be addressed, and all intakes within 50 foot of building exterior must be identified for appropriate placement of the exhaust tubes.

This section indicates that eight intake bays will be installed on the east and west sides of each floor. It is unclear what exactly is proposed, and further clarification of intended operations including drawings must be provided. Are these intake bays to provide additional make-up air sources at each floor of the work area, or the entire make-up air source for each floor? Describe the intended airflow for each portion of the overall work area as it relates to the intended purpose of the intake bays. Also, if additional make-up air sources from the exterior are required, HEPA filters will be required at these sources and the dampers must adequately close if negative air systems fail/shut down.

This section indicates that asbestos handlers will clean the interior surfaces of all windows in the work area by HEPA vacuuming and wet-wiping. Following cleaning, all windows, openings and building penetrations will be sealed with two layers of six-mil poly. However, it is unclear how operable window hidden surfaces that may still contain WTC dust will be cleaned prior to sealing of the windows as critical barriers. The procedures must be revised accordingly.

In addition, nothing is included within this section for any necessary selective demolition required to complete the installation of the critical barriers and to completely isolate the entire work area from the exterior environment as well as the remainder of the building (e.g. openings/penetrations at columns, shafts, curtain walls, etc.). Obviously any selective demolition necessary must be completed at the conclusion of work area preparation (including establishment of negative air ventilation and installation of the remainder of the critical barriers).

- 6.6 SIMULTANEOUS WORK PROCEDURES

As indicated above, describe the procedures for maintaining decontamination unit access to the upper levels during decontamination unit relocation.

This section indicates that a primary waste decontamination facility will be constructed at the west side of elevator bank A, and this decontamination facility will be connected to the shredder area, the contained elevator lobby, and stairwell B. However, this is confusing as identification of the individual decontamination facility chambers was not identified. Please identify the individual decontamination facility chambers, and describe how this facility will be utilized to serve all three entrance points. In addition, indicate how waste stream control will be maintained within the facility.

This section indicates that floors two through fifteen will comprise one work area, but three floor blocks will be split-up within the work area. It is unclear if each three floor block is segregated from the other three floor blocks within the same work area, and do they share the same air source? If all the three floor blocks within the same work area share the same air source and there is no segregation or isolation of these separate portions of the same work area, then abatement, cleaning and clearance must occur throughout all portions of the work area at the same time. As previously indicated, this approach is problematic at best. All abatement and cleaning operations within each abatement work area must be entirely completed before the project monitor visual inspection commences. The satisfactory visual inspection would then be followed by clearance air sampling of the entire work area.

- 6.7.2 NON-SHREDDABLE MATERIAL

This section indicates that "if attempts to clean any items are not successful, they will be wrapped…and disposed of as asbestos waste". However, nothing is mentioned regarding inspection procedures for these cleaned items, or what certified personnel will be performing the inspections. The owner's certified project monitor would have the training and expertise to perform these

inspections, but nothing is included regarding this requirement or the specific criteria to be used for the inspection. This information must be added to the work plan.

- 6.8 EXPOSED BUILDING COMPONENTS (FLOORS 2 THROUGH 15)

  This section indicates that "if attempts to clean building components are not successful, they will be wrapped…and disposed of as asbestos waste". However, nothing is mentioned regarding inspection procedures for these cleaned components, or what certified personnel will be performing the inspections. The owner's certified project monitor would have the training and expertise to perform these inspections, but nothing is included regarding this requirement or the specific criteria to be used for the inspection. This information must be added to the work plan.

- 6.9 INTERIOR WALL & CEILING SYSTEMS (FLOORS 2 THROUGH 15)

  This section indicates that sheetrock, ceiling systems and other materials that do not readily absorb water will be thoroughly saturated during removal. This section must be revised to indicate that materials to be removed shall be adequately wetted with amended water. Sufficient time shall be allowed for penetration to occur prior to abatement activities. All friable asbestos materials shall be thoroughly saturated. All non-hygroscopic (material that resists wetting) material shall be thoroughly wetted, prior to and during abatement.

  This section does not include any prohibition of ACM disturbance during removal of non-ACM systems. This requirement must be included within this section as ACM removals will commence following completion of the non-ACM removals.

  In addition, this section indicates that manual or mechanical means shall be used for removal of the wall and ceiling systems. As these systems are assumed to be contaminated, requirements consistent with ICR 56-7.2(o) must be included. This section of ICR 56 indicates that, "power tools used to drill, cut, or otherwise disturb asbestos material in regulated abatement work areas, shall be manufacturer equipped with HEPA-filtered local exhaust ventilation".

  This section indicates that "if attempts to clean the ceiling grid (and detached components) are not successful, they will be wrapped…and disposed of as asbestos waste". However, nothing is mentioned regarding inspection procedures for these cleaned items, or what specific certified personnel will be performing the inspections. The owner's certified project monitor would have the training and expertise to perform these inspections, but nothing is included regarding this requirement or the specific criteria to be used for the inspection. This information must be added to the work plan.

- 6.10 VENTILATION SHAFTS

  This section indicates that "if attempts to clean detached ductwork components are not successful, they will be wrapped…and disposed of as asbestos waste". However, nothing is mentioned regarding inspection procedures for these cleaned components, or what certified personnel will be performing the inspections. The owner's certified project monitor would have the training and expertise to perform these inspections, but nothing is included regarding this requirement or the specific criteria to be used for the inspection. This information must be added to the work plan.

  Additional details shall be provided regarding the segmentation of the shafts and installation of the isolation barriers within these shafts. It is unclear of these three floor blocks within the shaft will be part

of the three floor block of upper levels, and if abatement, cleaning and clearance of the ventilation shafts will occur simultaneously with the abatement, cleaning and clearance of the upper levels three floor blocks.

- 6.11 ASBESTOS ABATEMENT

  This section indicates that friable ACM pipe insulation, non-friable floor tiles and mastics will be removed simultaneously within the contained work area. However, ACM removal must be sequential as indicated within ICR 56-8.6. All friable ACM must be removed first followed by an intermediate cleaning, and then all non-friable ACM shall be removed. This section must be revised to correspond with ICR 56 requirements.

  In addition, requirements consistent with ICR 56-7.2(o) must be included. This section of ICR 56 indicates that, "power tools used to drill, cut, or otherwise disturb asbestos material in regulated abatement work areas, shall be manufacturer equipped with HEPA-filtered local exhaust ventilation".

  In addition, please include a description of all anticipated remaining surfaces within the upper levels work area following abatement and cleaning (e.g. masonry and steel construction with no interstitial spaces remaining at ceilings or walls…all exposed surfaces remaining at completion of cleaning are non-porous painted concrete or steel).

- 6.12 GASH AREA ABATEMENT PROCEDURES

  This section indicates that once hardwall barriers are installed at the gash area on the 11th, 12th, and 14th floors, the existing hardwall barriers at these floors will be removed and the work area extended to incorporate the additional gash areas within the upper levels containment enclosure. However, nothing is mentioned regarding prohibition of demolition or abatement work, while this extension of the work area in being completed. This requirement must be added.

- 6.13 REMEDIATION OF ROOF LEVELS

  This section indicates that "critical barriers will be installed over all roof drains on each roof level prior to the commencement of decontamination activities for that roof level". However, once roof drains are closed off, what water/wastewater collection method will be used for control of water on the roof level? No information is included to address this issue. This information must be added.

- 6.13.1 LOOSE STONE (BALLAST) REMOVAL

  This section indicates that the "loose stone will be cleaned and left for disposal as conventional waste during demolition". This approach is problematic at best, as the remaining cleaned stone ballast will continue to break down and be subject to weathering until it is removed from the roof. Additional fines are likely to be observed during the eventual disposal, and the question would arise…has the stone ballast been re-contaminated since the previous cleaning? The better approach would be to containerize the ballast once cleaned and inspected, for immediate disposal by appropriate legal means. Once the waste material is removed from the site, recontamination of the material at the site would not be possible.

  In addition, requirements for supervisor and project monitor inspections of the cleaned stone ballast and cleaned roof surfaces are not included within the section and must be added.

- 6.13.3 COOLING TOWER

  This section indicates that the "…handlers will dismantle the tower and clean all the components which will be left where the tower was located for removal during the deconstruction phase." However, nothing was included regarding how the cleaned components will be secured at the roof level to prevent being blown off the roof. Also, nothing is mentioned regarding protection of the cleaned components to prevent recontamination while being stored on the roof. This information must be added.

- 6.13.5 FOURTEENTH FLOOR SET BACK ROOF

  This section indicates that "upon completion of the loose stone removal…a waste decontamination facility will be installed…" However, the information included on the 14th floor Set Back Roof Drawing does not agree with the information within this section of the work plan. These documents must be appropriately revised to coincide with each other.

- 6.14 ELEVATOR SHAFTS

  This section indicates that the elevator cars will be brought to the bottom of the shafts and dismantled. However, nothing is mentioned regarding proper procedures for decommissioning the elevator cars or how the cars will be dismantled. What type of tools will be required and what dismantling techniques will be utilized? In addition, how will access be configured for the elevator car work area, what engineering controls will be utilized for the work area, and how will waste be transferred from the work area? Please provide all specifics relating to the elevator car dismantling work area.

- 6.17 REMEDIATION OF BASEMENT LEVEL

  This section does not indicate if the remediation if the basement will occur concurrently or following the first floor east side lobby & elevator banks remediation. Please provide the intended logistics for these work areas.

- 6.18 HEAVY MACHINERY & EQUIPMENT REMOVAL & 6.19 SPANDREL MASTIC REMOVAL

  These sections indicate that these operations will be included as part of the Deconstruction Operation. For ease of reference, please provide a work plan listing of all remaining abatement work that will be completed as part of the Deconstruction Operation.

- 6.20 FINAL CLEANING & CLEARANCE

  This section indicates that stairwell A & B will be cleaned and cleared simultaneously with the various 3 floor blocks of the upper floors. As these portions of the same work area share the same air source and there is no segregation or isolation of these separate portions of the same work area, cleaning and clearance must occur throughout the entire work area at the same time. The operations within each abatement work area must be entirely completed before the project monitor visual inspection commences. The satisfactory visual inspection would then be followed by clearance air sampling of the entire work area.

  Also, please include a description of Stairwell A & B construction, as well as a description of all remaining surfaces within the stairwell following cleaning and clearance (e.g. masonry and steel construction with no interstitial spaces at ceilings or walls…all exposed surfaces remaining at completion of cleaning and clearance are non-porous painted concrete or steel).

- 6.21 WORK AREA CLEARANCE CRITERIA

  Provisions must be added within the work plan to allow for regulatory agency visual inspections prior to commencement of clearance air sampling.

- 8.0 SITE WORK

  Please include a description of all anticipated remaining surfaces within the building following abatement, cleaning and clearance, and prior to implementation of the deconstruction operation (e.g. masonry and steel construction with no interstitial spaces remaining at ceilings or walls…all exposed surfaces remaining at completion of cleaning and clearance are non-porous painted concrete or steel).

If an unanticipated situation is encountered during the ACM removal and WTC dust/residue cleanup during implementation of the remediation work plan, which requires additional relief from 12 NYCRR 56, the owner's asbestos project designer firm must submit a reopening request to the site-specific variance decision as necessary, or submit an additional site-specific variance petition to address the situation. If you have any questions please contact our office at (518) 457-1536.

Sincerely,

Christopher G. Alonge, P.E.
Associate Safety and Health Engineer

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